WALCHEM
An Iwaki America Company

Metering Pumps
IX Series



OVERVIEW

A new class of advanced metering pumps! Iwaki's IX Series are digitally controlled direct-drive diaphragm pumps. Years of experience in high-end motor technology result in extremely accurate and energy efficient metering pumps with high resolution. The IX Series meet today's demand for automated chemical delivery in industries from water treatment to chemical process. Highly precise control offers a solution for a variety of dosing applications.

750:1
Turndown

±1%
High Accuracy

70%
Energy Savings

SUMMARY OF KEY BENEFITS

High Turndown Ratio
Motor control adjusts the discharge and suction speeds to meet a full and accurate turndown ratio of 750:1 (150 l/h to 200 ml/h).

High Accuracy
Combined with precise motor control, an efficient valve design maintains accurate flow rates to allow a low-cost, mechanically-driven diaphragm pump to achieve a high accuracy of ±1%.

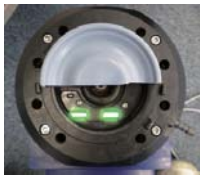
Energy Savings
Helical gears and return spring reduce power consumption by up to 70% compared to conventional mechanical diaphragm metering pumps.

High Compression Pump Head Design
A fixed stroke length maintains high compression in each stroke resulting in fast priming and no air-lock at any flow rate up to rated pressures.

IX Series Features

Suction vs. Discharge speed
- Suction speed is constant. Discharge speed is reduced as pump is turned down, helping to reduce pulsation and inertial forces on piping.

Standard Diaphragm Leak Sensor
- Behind the diaphragm, a sensor monitors for any sign of rupture or leakage.



Faulty Operation Detection
- Abnormal operation detection protects the pump and piping during discharge pressure spikes (valve closure) or increases (clogging)

Universal Design
- Multi-voltage operation (100-240VAC) and compliant to UL & CE standards
- Drive/control units each sealed to IP65 ratings

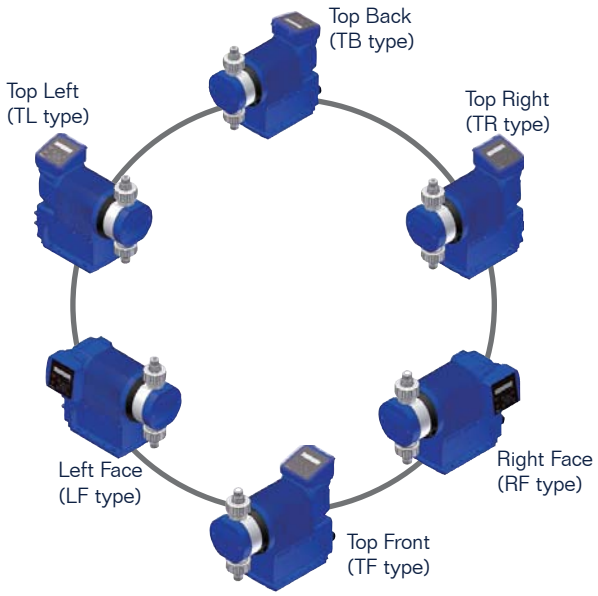
Cavitation Prevention
- The suction speed can be manually lowered for operation with highly viscous liquids or prevention of cavitation.

"Foolproof" Valve Cartridge Design
- An orientaton guide in the suction or discharge ports prevents valve cartridges from being incorrrectly installed.



Automatic Control
- Fully programmable analog or digital proportional control of the pump with Batch and Internal timer control features.

Flexible, User-friendly Interface
- The controller position can be ordered in 6 positions for operator convenience.
- LCD display with LED backlight
- Multiple display languages.

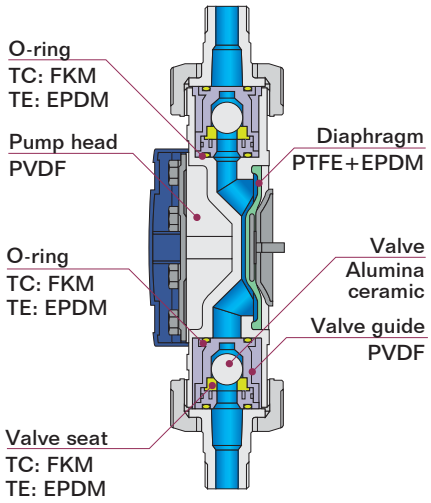


Degassing Assist
- Keypad operation or a contact signal (AUX) runs the pump at the full speed (overriding any mode) assisting in air elmination and priming.

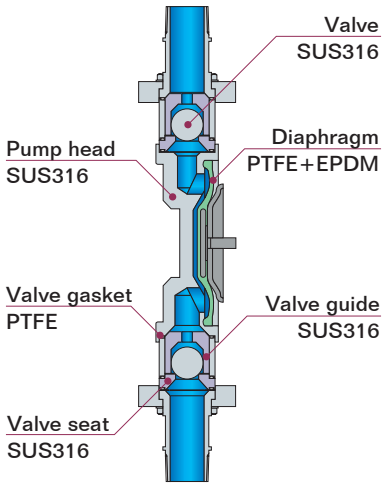
Operation History
- The controller logs total power connect time, operation time, the number of strokes and the number of power-on cycles.

Materials of Construction

TC, TE Materials



S6 Materials



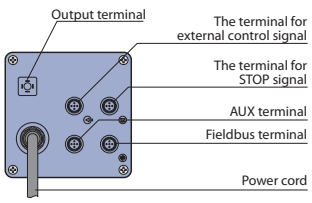
Pump Specifications

Model	Max Capacity GPH (LPH)	Max Pressure PSI (Mpa)	Average power consumption	Current Amps	Connection Size	Weight lbs (Kg)
IX-C060TC	0.02 - 15.6 (0.08 - 60)	145 (1.0)	62W	0.8 A	1/2" NPT	19.9 (9.0)
IX-C060TE						
IX-C060S6						26.4 (12.0)
IX-C150TC	0.05 - 39.6 (0.2 - 150)	58 (0.4)			3/4" NPT	19.9 (9.0)
IX-C150TE						
IX-C150S6						28.6 (13.0)

- Maximum discharge capacity is rated with clean water at ambient temperature at maximum discharge pressure. Output may increase as pressure decreases.
- Maximum viscosity: 1000 cps (standard pumps - consult factory for higher viscosities)
- Liquid temperature range: 0 -50°C (TC, TE type), 0-80°C (S6 type). No viscosity change. Non freezing. No slurry.
- Operating temperature range: 0-50°C (Indoor use only)
- Operating humidity range: 0-90% RH (Non-condensing in the controller)
- Maximum dry suction lift is 6.5 ft. (2m).
- Accuracy is not guaranteed at flows below 0.26GPH (1 LPH) for IX-C150S6 or 0.11GPH (0.4 LPH) for IX-C060S6

Controller Specifications

Monitors	LCD		16×2 backlight LCD
	LED		Operation / Stop / Alarm
Operation	Keypads		START / STOP MENU ESC Enter Up Down Left Light
Operation mode	MAN (Manual)		C060: 80 mL/H - 60 L/H, C150: 200 mL/H - 150 L/H
	EXT	Analog control	4 - 20, 0 - 20, 20 - 4, 20 - 0mA
		Pulse control	C060: 0.00625 mL/PLS - 120 mL/PLS, C150: 0.01560 mL/PLS - 300 mL/PLS
		Batch control	C060: 6.25 mL/PLS - 120 L/PLS, C150: 15.6 mL/PLS - 300 L/PLS Note 1
		Interval batch control	Time 0-9day, 0-23H, 1-59min Capacity C060: 6.25 mL - 120 L, C150: 15.6 mL - 300 L Note 1
Control function	STOP		Operation stops with contact input
	PRIME		MAX spm operation by pressing the Up and Down keys
	Interlock		Operation stops with contact input
	AUX		Operation at max. spm with contact input
Input Note 2	STOP / Pre-STOP / AUX / Interlock		No-voltage contact or open collector
	Profibus Note 3		Communication protocol: Profibus-DP International standard: Compliant to EN50170 (IEC61158)
	Analog		0-20mA DC (Internal resistance is 200Ω .)
	Pulse		No-voltage contact or open collector (MAX pulse frequency is 100Hz.)
Output	Alarm 1 Note 4		No-voltage contact (Mechanical relay) 250VAC 3A (Resistive load) Selectable: STOP, Pre-stop, Interlock, Leak Detection and Motor Overload.
	Alarm 2 Note 4		No-voltage contact (PhotoMOS relay) AC250V 3A (Registive load) Selectable: STOP, Pre-STOP, Interlock, Leak Detection and Motor Overload.
	Power supply		12VDC 30mA or below
Safety function	Diaphragm rupture detection		The pump will stop if the diaphragm ruptures.
	Overpressure detection		The pump will stop when the pump load rises too high.
Power voltage	100-240VAC 50/60Hz		



Note 1: The IX discharges a programmed volume per pulse in batch control. Default setting is 6.25 mL(C060) or 15.6 mL(C150). The volume per pulse is programmable. This setting can change after calibration and should be verified.
Note 2: Field wireable connectors for external control signals (analog, pulse input, and interlock), the STOP input, PreSTOP and AUX inputs are supplied with the pump.
Note 3: Contact us for use of the IX with Profibus control.
Note 4: A field wireable output connector is supplied with the pump.
• A Ground Fault Circuit Interruptor (GFCI) with a rated current of 5A / current sensitivity of 30mA is recommended.

ORDER INFORMATION

IX - C 150 TC N - TB - U
1 2 3 4 5 6

1 DRIVE UNIT
C

2 PUMP SIZE
060: 15.8 GPH (60 LPH)
150: 39.6 GPH (150 LPH)

3 WET END MATERIALS
TC = PVDF/FKM/CE
TE = PVDF/EPDM/CE
S6 = 316SS/PTFE

4 CONNECTIONS
N = 3/4" NPTM
FA = Flange (ANSI 150 lb ¾")

5 CONTROLLER LOCATION
TB = Top Back
TF = Top Front
TR = Top Right
TL = Top Left
RF = Right Face*
LF = Left Face*
* No display cover

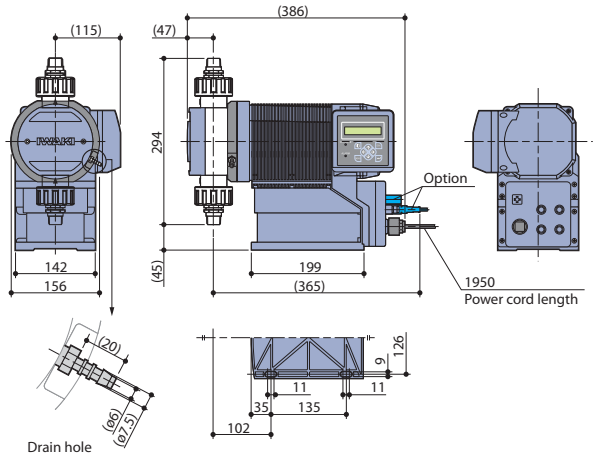
6 POWER CORD
U = USA (115V)
2 = USA (230V)
E = Europe (220V DIN)

Safety Certification

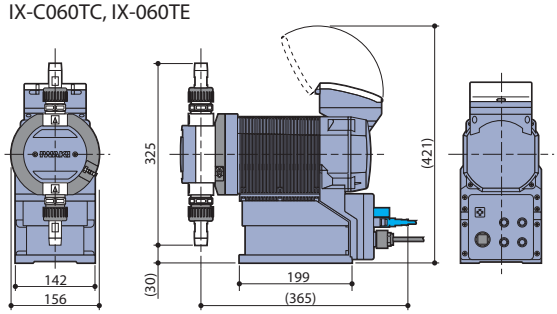
The IX series metering pumps are tested by Intertek to UL and CSA standards.

Dimensions (mm)

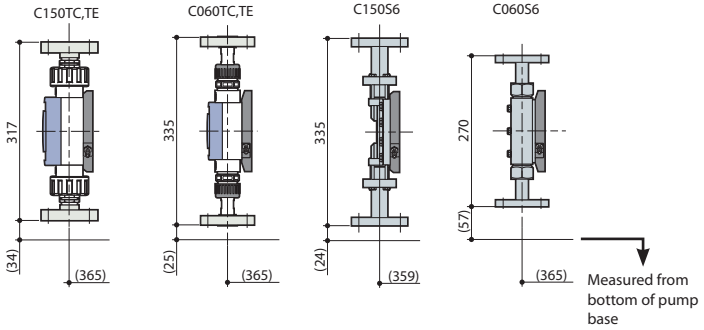
IX-C150TC, IX-C150TE



IX-C060TC, IX-060TE



Flange Connections



ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market.

Our in-house engineering is driven by quality, technology and innovation. For more information on the entire Walchem product line, visit: www.walchem.com

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